PATENT ABSTRACTS OF JAPAN

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(54) BUSINESS MANAGEMENT DEVICE, ITS METHOD AND STORAGE MEDIUM

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a business management device and its method capable of setting a target with a feeling of its achievement in each salesman in a sales section dealing with commodities such as houses whose sales contract can't be frequently concluded and smoothing business conclusion dates and salesman's business results in a previously determined period and a storage medium to be used for the device and method.

SOLUTION: The business management device is provided with an input means 5 for inputting the sales conclusion date information of each salesman, a CPU 2 for calculating the number of days elapsed from the latest sales conclusion date of each salesman up to the present time as 'the current information about the number of days elapsed of each salesman', a storage means 7 for storing the sales conclusion date information of each salesman and 'the present information about the number of days elapsed of each salesman', and a display means 3 for displaying the 'current information about the number of days elapsed' of each salesman. Each salesman conducts business action on the basis of the 'current information about the number of days elapsed' and a manager in the sales section manages the sales section on the basis of the 'current information about the number of days elapsed'.
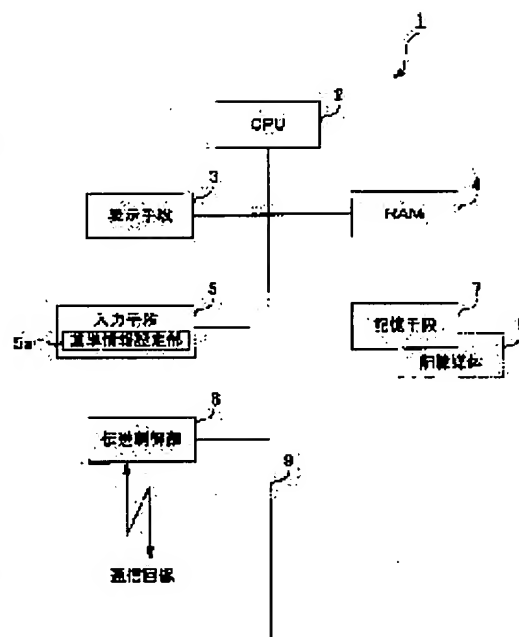
DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] Especially this invention relates to the scheduled maintenance management method of the customer equipment which performs management of the scheduled maintenance activity schedule for every customer equipment, and a fixed substitute part about the scheduled maintenance management method of customer equipment.
[0002]
[Description of the Prior Art] Conventionally, this kind of scheduled maintenance management method is used in the information processor for the purpose of man day reduction of managements of the exchange schedule of a fixed substitute part, and the increase in efficiency of components arrangements, as shown for example, in the patent No. 2868476 official report "the maintenance method of an information processor."
[0003] Drawing 9 is the block diagram showing the configuration of invention of a publication in this official report. If drawing 9 is referred to, the maintenance method of an information processor consists of workmanship instruction means H, and is further connected with the renewal means E of the storage section, the notice information generation means F, the failure components extract means G, the extract information bureau 4, and the storage section 5 with a service processor 6, stock control System 7, and the activity section 8.
[0004] In such a configuration, the renewal means E of the storage section investigates the input (a warehouse name, a components name, the number of inventories, or due-in days and months) from stock control System 7, and when there is input, it updates the applicable information on the warehouse information 52 on the storage section 5. The failure components extract means G investigates the existence of the input of the fault information from a service processor 6, extracts failure components from the inputted fault information, and notifies them to the notice information generation means F. The notice information generation means F is connected to a service processor 6, the failure components extract means G, the renewal means E of the storage section, and the storage section 5. The information on the components which receive the date and time amount of KARENTO which a service processor 6 has, and require fixed exchange, and the information on a warehouse that the component is kept From the storage section 5 to after an extract The notice information on stock control System 7 and the activity section 8 is generated, the extract information bureau 4 is notified, and transmission is directed for the workmanship instruction means H. The extract information bureau 4 holds the notice information which the notice information generation means F generated. The information of the extract information bureau 4 and directions are connected to reception from the notice information generation means F, it connects a communication line 92 to stock control System 7, and the workmanship instruction means H connects a communication line 93 to the activity section 8. After connecting, while performing the expenditure demand of components for the notified information of the extract information bureau 4 to stock control System 7, fixed exchange is notified to the activity section 8. Thus,

invention by the above-mentioned official report is indicating about exchange management of a fixed substitute part.

[0005] On the other hand, about the scheduled maintenance implementation period of customer equipments other than exchange management of a fixed substitute part, it is common that an operator sets it as arbitration based on the past experience.

[0006]

[Problem(s) to be Solved by the Invention] There were the following troubles in the conventional maintenance method mentioned above.

[0007] The 1st trouble is the scheduled maintenance implementation period for every customer equipment changing by the operator, even if it is the same equipment configuration, and being unable to offer uniform maintenance-service service for every user, in order that an operator may set the scheduled maintenance implementation period of customer equipment as arbitration based on the past experience.

[0008] After the 2nd trouble is related like the purchase of an onerous fixed substitute part, arrangements, or a maintenance working day and takes the check of the formation of a purchase budget, and acknowledgement of a schedule to a user, in order to carry out, it is that the case where it becomes impossible to carry out a maintenance service comes out. Or though the check is taken, since tuning with a user is handicraft, it is tuning's taking time amount as a working day, or becoming the cause of a communication mistake. In recent years, since this activity cannot be done, the problem on which the safety of equipment is spoiled [problem] and a manufacture person's in charge flaw responsibility is imposed has also been generated.

[0009] Although configuration changes, such as installation and withdrawal, a change of use conditions, etc. are made according to a use situation, since renewal of a proper setup of a scheduled maintenance implementation period or proper modification of an operation work item, addition of a fixed substitute part, deletion, etc. by this customer equipment configuration modification or use condition modification is not performed, the customer equipment with which a user uses the 3rd trouble is being unable to carry out subsequent proper scheduled-maintenance management. Or though updated, in adjustment by the handicraft by the operator, there is a problem that the leakage in a setting and incorrect registration occur. Especially about a scheduled maintenance implementation period, although the minimum scheduled maintenance implementation period for every work item of customer equipment should be applied as a scheduled maintenance implementation period of customer equipment, the leakage in a setting and incorrect registration occur in adjustment by the handicraft by the operator.

[0010] This invention aims at offering the scheduled maintenance management method of the customer equipment which solves the above problem.

[0011]

[Means for Solving the Problem] The scheduled maintenance management method of the 1st customer equipment of this invention It is the scheduled maintenance management method of the customer equipment which performs management of the scheduled maintenance activity schedule for every customer equipment, and a fixed substitute part. The minimum work-item period is computed as a scheduled maintenance working cycle of said customer equipment among the work-item periods of each scheduled maintenance work item beforehand defined for said every customer equipment. While computing a scheduled maintenance work-program day based on said scheduled maintenance working

cycle, the onerous substitute part corresponding to said scheduled maintenance work item is computed. While performing the notice of an acknowledgement request of said scheduled maintenance work-program day and said onerous substitute part to a user, receiving the reply of the purport recognized from said user and performing directions of scheduled maintenance activity implementation, and expenditure of said onerous substitute part When the scheduled maintenance working cycle of said customer equipment after this updating is computed with the equipment configuration of said customer equipment, or renewal of a scheduled maintenance work item and it differs from the scheduled maintenance working cycle before the scheduled maintenance working cycle after said updating updating, it is characterized by performing re-calculation of a scheduled maintenance work-program day.

[0012] The scheduled maintenance management method of the 2nd customer equipment of this invention In the scheduled maintenance management method of the 1st customer equipment of this invention, the notice of an acknowledgement request to said user When an advice date is computed based on said user's budget decision stage beforehand registered when there was said onerous substitute part, it will carry out by this advice date and said onerous substitute part cannot be found, it is characterized by computing an advice date based on said scheduled maintenance work-program day, and carrying out by this advice date.

[0013] The scheduled maintenance management method of the 3rd customer equipment of this invention The storage section which is the scheduled maintenance management method of the customer equipment which performs management of the scheduled maintenance activity schedule for every customer equipment, and a fixed substitute part, creates beforehand customer information, equipment configuration information, work-item information, and substitute part information, and memorizes them for said every customer equipment, While performing calculation of the scheduled maintenance working cycle for said every customer equipment, and a scheduled maintenance work-program day, and the extract of a scheduled maintenance work item with reference to the customer information on said storage section, equipment configuration information, and work-item information The working day which extracts the information on a substitute part required at the time of a scheduled maintenance activity with reference to said substitute part information, and is outputted to an extract information bureau by making said information computed and extracted into user the information that it does not recognize A calculation means, With the extract information bureau where a working day holds the information on the scheduled maintenance work-program day and scheduled maintenance work item which the calculation means computed said working day and extracted it, and a substitute part as user information that it does not recognize, to information and schedule components information, more nearly respectively With reference to said extract information bureau, perform the notice of an acknowledgement request with an onerous substitute part among said scheduled maintenance work-program days and said substitute parts to the user who had user the information that it did not recognize held, and the reply of the purport recognized from a user is received. While updating user the information that it does not recognize on said information extract section, to the information that it recognizes [user] The working day which notifies that said information that it recognized [user] was set up to a workmanship instruction means A definite means, A setup of said information that it recognizes [user] is notified

to said working day from a definite means, and it refers to said extract information bureau. While notifying said scheduled maintenance working day set up as said information that it recognizes [user], and said scheduled maintenance work item at the base for an activity and performing workmanship instruction It is characterized by having a workmanship instruction means to notify purchase or an arrangements demand of said substitute part to an inventory control system, and the inventory control system which pays out in response to purchase or an arrangements demand of said substitute part.

[0014] The scheduled maintenance management method of the 4th customer equipment of this invention is characterized by a calculation means computing the minimum thing as a scheduled maintenance working cycle of said customer equipment among the work-item periods of each work item beforehand set to the work-item information on said storage section like said working day in the scheduled maintenance management method of the 3rd customer equipment of this invention.

[0015] The scheduled maintenance management method of the 5th customer equipment of this invention The storage section which is the scheduled maintenance management method of the customer equipment which performs management of the scheduled maintenance activity schedule for every customer equipment, and a fixed substitute part, creates beforehand customer information, equipment configuration information, work-item information, and substitute part information, and memorizes them for said every customer equipment, While performing calculation of the scheduled maintenance working cycle for said every customer equipment, and a scheduled maintenance work-program day, and the extract of a scheduled maintenance work item with reference to the customer information on said storage section, equipment configuration information, and work-item information The working day which extracts the information on a substitute part required at the time of a scheduled maintenance activity with reference to said substitute part information, and is outputted to an extract information bureau by making said information computed and extracted into user the information that it does not recognize A calculation means, With the extract information bureau where a working day holds the information on the scheduled maintenance work-program day and scheduled maintenance work item which the calculation means computed said working day and extracted it, and a substitute part as user information that it does not recognize, to information and schedule components information, more nearly respectively With reference to said extract information bureau, perform the notice of an acknowledgement request with an onerous substitute part among said scheduled maintenance work-program days and said substitute parts to the user who had user the information that it did not recognize held, and the reply of the purport recognized from a user is received. While updating user the information that it does not recognize on said information extract section, to the information that it recognizes [user] The working day which notifies that said information that it recognized [user] was set up to a workmanship instruction means A definite means, A setup of said information that it recognizes [user] is notified to said working day from a definite means, and it refers to said extract information bureau. While notifying said scheduled maintenance working day set up as said information that it recognizes [user], and said scheduled maintenance work item at the base for an activity and performing workmanship instruction A workmanship instruction means to notify purchase or an arrangements demand of said substitute part to an inventory control system, The inventory control system which pays out in response to

purchase or an arrangements demand of said substitute part, The customer device-management system which notifies modification of the equipment configuration information for said every customer equipment to the renewal means of the storage section, The scheduled maintenance work-item managerial system which notifies modification of the scheduled maintenance work item for said every customer equipment to said renewal means of the storage section, By the change notice of the equipment configuration information from said customer device-management system, the equipment configuration information on said storage section Moreover, while updating the work-item information on said storage section, and substitute part information by the change notice of the scheduled maintenance work item from said scheduled maintenance work-item managerial system When the scheduled maintenance working cycle of said customer equipment after updating is computed using the work-item information on said updated storage section and it differs from the scheduled maintenance working cycle before this scheduled maintenance working cycle updating A working day is characterized by having a renewal means of the storage section to direct re-calculation of a scheduled maintenance work-program day to a calculation means.

[0016] The scheduled maintenance management method of the 6th customer equipment of this invention is characterized by a calculation means and said renewal means of the storage section computing the minimum thing as a scheduled maintenance working cycle of said customer equipment among the work-item periods of each work item beforehand set to the work-item information on said storage section like said working day in the scheduled maintenance management method of the 5th customer equipment of this invention.

[0017] The scheduled maintenance management method of the 7th customer equipment of this invention In the scheduled maintenance management method of the customer equipment of the 3rd, 4th, 5th, or 6th publication of this invention said working day a definite means When the notice of an acknowledgement request to said user is performed even before the fixed date of a user's budget decision stage when there is said onerous substitute part, and said onerous substitute part cannot be found, it is characterized by performing the notice of an acknowledgement request to said user even before the fixed date of said scheduled maintenance work-program day.

[0018] The scheduled maintenance management method of the 8th customer equipment of this invention In the scheduled maintenance management method of the customer equipment of the 3rd, 4th, 5th, or 6th publication of this invention the customer information on said storage section A customer name, a customer's address, a customer's contact, and the scheduled maintenance working cycle for computing a scheduled maintenance work-program day, Schedule calculation dates of record which show the opening day of count, such as an equipment installation date and a maintenance initiation date, It is characterized by consisting of budget decision days of the user for computing the notice period before an activity for computing the advice date which has a user recognize a scheduled maintenance work-program day etc., and the advice date for being enough for budget appropriation of a user.

[0019] The scheduled maintenance management method of the 9th customer equipment of this invention is characterized by the equipment configuration information on said storage section consisting of a customer name, and the equipment code and device name of the customer equipment currently installed by the user in the scheduled maintenance

management method of the customer equipment of the 3rd, 4th, 5th, or 6th publication of this invention.

[0020] The scheduled maintenance management method of the 10th customer equipment of this invention is characterized by the work-item information on said storage section consisting of a work item corresponding to the equipment code and this equipment code of customer equipment for a scheduled maintenance activity, and a work-item period which is a scheduled maintenance working cycle for every work item of this in the scheduled maintenance management method of the customer equipment of the 3rd, 4th, 5th, or 6th publication of this invention.

[0021] The scheduled maintenance management method of the 11th customer equipment of this invention In the scheduled maintenance management method of the customer equipment of the 3rd, 4th, 5th, or 6th publication of this invention the substitute part information on said storage section It is characterized by consisting of a work item, the substitute part name which is needed corresponding to this work item, a components partition which shows whether this substitute part is onerous or it is onerous, quantity needed in case it exchanges, and a unit price of components.

[0022] The scheduled maintenance management method of the 12th customer equipment of this invention In the scheduled maintenance management method of the customer equipment of the 3rd, 4th, 5th, or 6th publication of this invention the working day of said extract information bureau information It is characterized by consisting of the scheduled maintenance work-program day when said working day was computed with the calculation means, a customer name, a work-program decision partition which judges approval of the user of a work program, and un-recognizing, and a work item.

[0023] The scheduled maintenance management method of the 13th customer equipment of this invention In the scheduled maintenance management method of the customer equipment of the 3rd, 4th, 5th, or 6th publication of this invention the schedule components information of said extract information bureau It is characterized by consisting of the scheduled maintenance work-program day when said working day was computed with the calculation means, a customer name, the substitute part name to exchange, a components partition which judges whether this substitute part is onerous or it is onerous, quantity needed in case it exchanges, and a unit price of components.

[0024]
[Embodiment of the Invention] The gestalt of operation of this invention is explained with reference to a drawing.

[0025] Drawing 1 is the block diagram showing the configuration of the gestalt of 1 operation of this invention. When drawing 1 is referred to, the scheduled maintenance management method 1 of the customer equipment of this invention The renewal means A of the storage section and a working day the calculation means B and a working day The definite means C It consists of a workmanship instruction means D, the storage section 2, and an extract information bureau 3. Further The scheduled maintenance item managerial system 10, Communication lines 30-33 connect with the customer device-management system 11, the base 13 for an activity, and an inventory control system 14, and a scheduled maintenance working day includes the transfer 34 of a costs estimate, and the incorporation 35 of the reply information to a user 12. In addition, the scheduled maintenance item managerial system 10 and the customer device-management system 11 are systems which notify the equipment configuration information on a scheduled

maintenance item or customer equipment to the renewal means of the storage section, respectively, and are usually formed one set common to all customer equipments.

[0026] these components -- respectively -- an outline -- it operates as follows.

[0027] The renewal means A of the storage section updates the equipment configuration information 21 on the storage section 2 by modification of the equipment configuration information for every user from the customer device-management system 11. Moreover, the work-item information 22 and the substitute part information 23 on the storage section 2 are updated by modification of the scheduled maintenance work content for every user from the scheduled maintenance work-item managerial system 10. When the scheduled maintenance working cycle of customer equipment is changed with renewal of the storage section 2, a working day directs the re-calculation like a working day to the calculation means B.

[0028] Like a working day, the calculation means B extracts the calculation like a user's scheduled maintenance working day, and the item of a scheduled maintenance activity and the information on a substitute part which are carried out on a work-program day from the customer information 20 on the storage section 2, the equipment configuration information 21, the work-item information 22, and the substitute part information 23, and outputs them to the extract information bureau 3.

[0029] The definite means C transmits scheduled maintenance activity information to a user to suitable timing, a working day incorporates reply information [finishing / approval of a user] in the information extract section 3, and definite information is notified to the workmanship instruction means D.

[0030] The workmanship instruction means D notifies purchase and arrangements of a substitute part to an inventory control system 14 while the scheduled maintenance working day decided from the definite means C like the working day directs a work item at the base 13 for an activity.

[0031] The storage section 2 has held beforehand the customer information 20, a user's equipment configuration information 21, the work-item information 22, and the substitute part information 23 with a components partition, a components unit price, etc.

[0032] As for the extract information bureau 3, a working day holds the scheduled maintenance work-program day and work item which the calculation means B computed like the working day, and substitute part information to information 24 and the schedule components information 25, more nearly respectively.

[0033] Next, drawing 2 is referred to about the detailed configuration of the storage section 2, drawing 3 is referred to about the detailed configuration of the extract information bureau 3, and it explains.

[0034] Drawing 2 is drawing showing the example of a configuration of the storage section 2 in the gestalt of 1 operation of this invention. It is the schedule calculation date of record (usually) which indicates the opening day of count to be a scheduled maintenance working cycle for the customer information 20 to compute a work-program day with a customer name, a customer's address, and a customer's contact in drawing 2 . It consists of budget decision days of the user for computing the advice date for being enough for appropriation of the notice period before an activity for computing the introductory date customer equipment's or a maintenance initiation date, and the advice date that has a user check a scheduled maintenance work-program day, and a user's budget.

[0035] The equipment configuration information 21 consists of a customer name, and the equipment code and device name of the customer equipment currently installed by the user, and is updated by the customer device-management system 11.

[0036] The work-item information 22 consists of a work item to the equipment code and its equipment code of customer equipment for [which is updated by the renewal means A of the storage section] scheduled maintenance, and a work-item period which is a fixed working cycle for every work item, and is updated with the scheduled maintenance item managerial system 10.

[0037] The substitute part information 23 consists of the work item updated by the renewal means A of the storage section, the substitute part name which is needed corresponding to the work item, a components partition which judges whether a substitute part is onerous or it is onerous, quantity needed in case it exchanges, and a unit price of components, and is updated with the scheduled maintenance item managerial system 10.

[0038] Drawing 3 is drawing showing the example of a configuration of the extract information bureau 3 in the gestalt of 1 operation of this invention. In drawing 3 , the activity schedule information 24 consists of the work-program day computed with the activity schedule calculation means B, a customer name, a work-program decision partition which judges decision of a work program, and un-deciding, and a work item to a work-program day.

[0039] The schedule components information 25 consists of the work-program day computed with the calculation means B like the working day, a customer name, the substitute part name over a work-program day, a components partition that judges whether a substitute part is onerous or it is onerous, quantity needed in case it exchanges, and a unit price of components.

[0040] Next, actuation of the whole gestalt of this operation is explained to a detail with reference to drawing 1 .

[0041] In drawing 1 , adjustment of a scheduled maintenance activity schedule refers to the customer information 20 and the equipment configuration information 21 which are beforehand registered into the storage section 2, the work-item information 22, and the substitute part information 23. When compute a scheduled maintenance work-program day, a work item, and substitute part information, the extract information bureau 3 is updated, it extracts like an undecided scheduled maintenance working day and costs do not occur in an activity When costs occur on the suitable schedule in front of a maintenance service, work-program information is notified to the suitable schedule which can perform budget appropriation of a user, and the settled scheduled maintenance activity information is notified to the base 13 for an activity, and an inventory control system 14. When modification occurs in a user's equipment configuration and scheduled maintenance work content, the renewal of a user's equipment configuration information or renewal of the scheduled maintenance work content from the scheduled maintenance item managerial system 10 is incorporated in the storage section 2 from the customer device-management system 11, and when changed like a user's scheduled maintenance working day, the re-calculation like a working day is directed.

[0042] Next, processing actuation of an activity schedule calculation means B to compute scheduled maintenance activity schedule information is explained with reference to drawing 5 from the customer information 20, the equipment configuration information

21, the work-item information 22, and the substitute part information 23 on the storage section 2 registered beforehand. Drawing 5 is a flow chart which shows processing actuation of the activity schedule calculation means B.

[0043] First, the calculation means B extracts customer equipment with the equipment configuration applicable to updating like a scheduled maintenance working day from the storage section 2 like a working day. At this time, it computes like a next scheduled maintenance working day from a schedule calculation date of record and a scheduled maintenance working cycle with reference to the customer information 20 on the storage section 2, and when it is less than one year from this time, it is judged that it is customer equipment applicable to updating like a scheduled maintenance working day. It shall set up beforehand so that this extract and a calculation activity may be done first etc. every month. In addition, when re-calculation of a scheduled maintenance activity schedule is directed with renewal of an equipment configuration or a scheduled maintenance work content from the renewal means A of the storage section, it performs doing this extract and a calculation activity (step B1 of drawing 5).

[0044] Next, the calculation means B computes the minimum thing as a scheduled maintenance working cycle of customer equipment among the work-item periods of each work item of an applicable user based on the equipment configuration information 21 and the work-item information 22 like a working day. Update the scheduled maintenance working cycle of the customer information 20 (step B-2), and a work-program day is computed from the schedule calculation date of record of the scheduled maintenance working cycle and customer information 20 (step B3). The work item to a work-program day is computed (step B4), a working day outputs a customer name, and the work-program day and work item which were computed to information 24 (step B5), and the substitute part information corresponding to a work item is outputted to the schedule components information 25 (step B6).

[0045] Next, work-program information is transmitted to a user from the extract information bureau 3, and the processing actuation which decides a scheduled maintenance activity schedule is explained with reference to drawing 6 and drawing 7 by acquiring acknowledgement of a work-program day and a costs estimate. Drawing 6 and drawing 7 are flow charts which show processing actuation of the activity schedule decision means C. In addition, it is set up so that it may process by starting the definite means C like a working day every day.

[0046] If the definite means C judges whether there are read in and what has an undecided work-program decision partition about a work-program day record from information 24 like the working day of the extract information bureau 3 like a working day (step C1) and there is an undecided thing, it will judge from a components partition whether read in (step C2) and a substitute part are onerous about the components partition to a work-program day, or it is onerous from the schedule components information 25 (step C3).

[0047] When costs do not occur on the corresponding work-program day The activity schedule decision means C is an advice date (for example, when the notice period before an activity is one month) more suitable than the notice period before an activity which the customer information 20 on a work-program day record and the storage section 2 defined beforehand. When one-month before of a work-program day etc. is computed (step C4) and costs occur, from the budget decision day of the customer information 20, the period

(for example, six months before) which can fully add up a user's budget is computed, and it decides on an advice date (step C5).

[0048] Next, like a working day, the definite means C compares the computed advice date with the date on which this processing is performed (step C6), and read in processing is performed for the work-program day record corresponding to the following undecided partition at the time of an inequality. When, and a components partition is judged further (step C7) and costs occur, costs estimated information is created from the components unit price and required number of the schedule components information 25 (step C8). When costs do not occur, costs estimated information is not created.

[0049] About the activity the advice date and whose processing date corresponded, the activity schedule decision means C creates work-program day information from the activity schedule information 24 to a user (step C9 of drawing 7), and work-program day information and a costs estimate are transmitted to a user 12 using 34, such as telephone auto-sending, facsimile, and an electronic mail, (step C10).

[0050] In a user 12, the scheduled maintenance work-program day and costs estimate which were transmitted are checked (step C11), and a letter is answered through 35, such as an audio response, the Internet, and an electronic mail, in those acknowledgement (step C12).

[0051] It notifies that read in (step C13) and a working day are updated to decision like a working day (step C14), and there is definite information to the workmanship instruction means D in the work-program decision partition of information 24 about the acknowledgement information as which it was answered to the definite means C (step C15).

[0052] Next, the definite notice from the activity schedule decision means C is received, scheduled day information etc. is notified to the base 13 for an activity, and when there is a substitute part, the processing actuation which notifies components information required for an inventory control system 14 is explained with reference to drawing 8 . Drawing 8 is a flow chart which shows processing actuation of the workmanship instruction means D.

[0053] It checks whether the workmanship instruction means D has the record with which decision of a work program is received from the activity schedule decision means C, and the work-program decision partition of the activity schedule information 24 is decided with reference to the extract information bureau 3 (step D1 of drawing 8). If there is definite schedule information, the workmanship instruction means D will judge the existence of components from the schedule components information 25 (step D2).

[0054] the case where there are components -- like a working day -- the components name of the work-program information on information 24 (a work-program day, a customer name, work item), and the schedule components information 25, and a required number -- the base 13 for an activity -- a communication line 32 -- using -- notifying (step D3) -- In order that an inventory control system 14 may perform purchase or arrangements, a communication line 33 is used to an inventory control system 14, and the components information on the schedule components information 25 (a components name, a required number, customer name, etc.) is notified to it (step D4). In step D2, when there are no components, a working day notifies the work-program information on information 24 (a work-program day, a customer name, work item) to the base 13 for an activity using a communication line 32 (step D5).

[0055] After the working day when the notice ended the workmanship instruction means D following steps D3, D4, or D5 deletes the record of information 24 and the schedule components information 25, actuation of the return step D1 - step D6 is repeated to step D1 (step D6).

[0056] Next, actuation of processing with the renewal of the equipment configuration information on customer equipment which received from the customer device-management system 11, and the renewal of scheduled maintenance work-content information which received from the scheduled maintenance item managerial system 10 is explained with reference to drawing 4 . Drawing 4 is a flow chart which shows processing actuation of the renewal means A of the storage section.

[0057] The renewal means A of the storage section updates the work-item information 22 and the substitute part information 23 which receive through communication lines 30 and 31, respectively (steps A1 and A2 of drawing 4), and correspond the modification information on the scheduled maintenance item managerial system 10 to a scheduled maintenance work item from renewal of a scheduled maintenance work item in the equipment configuration update information (introductory equipment information, withdrawal equipment information, configuration change information, etc.) of the customer device-management system 11 to customer equipment (step A3).

[0058] The scheduled maintenance working cycle of the customer applicable to the incorporated update information is read from the customer information 20 (step A4 and A5). From equipment configuration update information, the equipment configuration information 21 is updated (step A6), and is computed as a scheduled maintenance working cycle after updating the minimum scheduled maintenance working cycle of each work item of the corresponding work-item information 22 (step A7).

[0059] Since there is no modification like a scheduled maintenance working day when the scheduled maintenance working cycle before updating is compared with the scheduled maintenance working cycle after updating (step A8) and a scheduled maintenance working cycle is in agreement, the following customer information for updating is processed. At the time of an inequality, since modification occurs like a scheduled maintenance working day, a working day notifies directions of a re-calculation to the calculation means B (step A9).

[0060]

[Effect of the Invention] Since the minimum working cycle was automatically set up as a scheduled maintenance working cycle of customer equipment among the working cycles for every scheduled maintenance work item corresponding to the equipment configuration of customer equipment, the 1st effectiveness by this invention is having become possible to offer the uniform service which can set up the right scheduled maintenance working cycle with which the fixed criteria's are filled from the working cycle by the rule of thumb which was being performed with the help, and can maintain stable operation of equipment.

[0061] Since the 2nd effectiveness establishes a means to notify a user of a scheduled maintenance work-program day or an onerous substitute part on a suitable schedule automatically, incorporates the reply information on the acknowledgement from a user and it was made to decide a scheduled maintenance activity, it is being able to adjust now like a scheduled maintenance working day in case especially costs' occur easily.

[0062] Since the 3rd effectiveness established a means to have extracted automatically

the user whom modification like a scheduled maintenance working day produces with equipment configuration modification of customer equipment or modification of a scheduled maintenance work item, and to direct the re-calculation like a scheduled maintenance working day, even if a user's equipment configuration and scheduled maintenance work item are changed, it is manageable like a proper scheduled maintenance working day.

CLAIMS

[Claim(s)]
[Claim 1] It is the scheduled maintenance management method of the customer equipment which performs management of the scheduled maintenance activity schedule for every customer equipment, and a fixed substitute part. The minimum work-item period is computed as a scheduled maintenance working cycle of said customer equipment among the work-item periods of each scheduled maintenance work item beforehand defined for said every customer equipment. While computing a scheduled maintenance work-program day based on said scheduled maintenance working cycle, the onerous substitute part corresponding to said scheduled maintenance work item is computed. While performing the notice of an acknowledgement request of said scheduled maintenance work-program day and said onerous substitute part to a user, receiving the reply of the purport recognized from said user and performing directions of scheduled maintenance activity implementation, and expenditure of said onerous substitute part The scheduled maintenance working cycle of said customer equipment after this updating is computed with the equipment configuration of said customer equipment, or renewal of a scheduled maintenance work item. The scheduled maintenance management method of the customer equipment characterized by performing re-calculation of a scheduled maintenance work-program day when it differs from the scheduled maintenance working cycle before the scheduled maintenance working cycle after said updating updating.
[Claim 2] The notice of an acknowledgement request to said user is the scheduled maintenance management method of the customer equipment according to claim 1 characterized by computing an advice date based on said scheduled maintenance work-program day, and carrying out by this advice date when an advice date is computed based on said user's budget decision stage beforehand registered when there was said onerous substitute part, it will carry out by this advice date and said onerous substitute part cannot be found.
[Claim 3] The storage section which is the scheduled maintenance management method of the customer equipment which performs management of the scheduled maintenance activity schedule for every customer equipment, and a fixed substitute part, creates beforehand customer information, equipment configuration information, work-item information, and substitute part information, and memorizes them for said every customer equipment, While performing calculation of the scheduled maintenance working cycle for said every customer equipment, and a scheduled maintenance work-program day, and the extract of a scheduled maintenance work item with reference to the customer information on said storage section, equipment configuration information, and work-item information The working day which extracts the information on a substitute part required at the time of a scheduled maintenance activity with reference to said

substitute part information, and is outputted to an extract information bureau by making said information computed and extracted into user the information that it does not recognize A calculation means, With the extract information bureau where a working day holds the information on the scheduled maintenance work-program day and scheduled maintenance work item which the calculation means computed said working day and extracted it, and a substitute part as user information that it does not recognize, to information and schedule components information, more nearly respectively With reference to said extract information bureau, perform the notice of an acknowledgement request with an onerous substitute part among said scheduled maintenance work-program days and said substitute parts to the user who had user the information that it did not recognize held, and the reply of the purport recognized from a user is received. While updating user the information that it does not recognize on said information extract section, to the information that it recognizes [user] The working day which notifies that said information that it recognized [user] was set up to a workmanship instruction means A definite means, A setup of said information that it recognizes [user] is notified to said working day from a definite means, and it refers to said extract information bureau. While notifying said scheduled maintenance working day set up as said information that it recognizes [user], and said scheduled maintenance work item at the base for an activity and performing workmanship instruction The scheduled maintenance management method of the customer equipment characterized by having a workmanship instruction means to notify purchase or an arrangements demand of said substitute part to an inventory control system, and the inventory control system which pays out in response to purchase or an arrangements demand of said substitute part.

[Claim 4] A calculation means is the scheduled maintenance management method of the customer equipment according to claim 3 characterized by computing the minimum thing as a scheduled maintenance working cycle of said customer equipment among the work-item periods of each work item beforehand set to the work-item information on said storage section like said working day.

[Claim 5] The storage section which is the scheduled maintenance management method of the customer equipment which performs management of the scheduled maintenance activity schedule for every customer equipment, and a fixed substitute part, creates beforehand customer information, equipment configuration information, work-item information, and substitute part information, and memorizes them for said every customer equipment, While performing calculation of the scheduled maintenance working cycle for said every customer equipment, and a scheduled maintenance work-program day, and the extract of a scheduled maintenance work item with reference to the customer information on said storage section, equipment configuration information, and work-item information The working day which extracts the information on a substitute part required at the time of a scheduled maintenance activity with reference to said substitute part information, and is outputted to an extract information bureau by making said information computed and extracted into user the information that it does not recognize A calculation means, With the extract information bureau where a working day holds the information on the scheduled maintenance work-program day and scheduled maintenance work item which the calculation means computed said working day and extracted it, and a substitute part as user information that it does not recognize, to information and schedule components information, more nearly respectively With

reference to said extract information bureau, perform the notice of an acknowledgement request with an onerous substitute part among said scheduled maintenance work-program days and said substitute parts to the user who had user the information that it did not recognize held, and the reply of the purport recognized from a user is received. While updating user the information that it does not recognize on said information extract section, to the information that it recognizes [user] The working day which notifies that said information that it recognized [user] was set up to a workmanship instruction means A definite means, A setup of said information that it recognizes [user] is notified to said working day from a definite means, and it refers to said extract information bureau. While notifying said scheduled maintenance working day set up as said information that it recognizes [user], and said scheduled maintenance work item at the base for an activity and performing workmanship instruction A workmanship instruction means to notify purchase or an arrangements demand of said substitute part to an inventory control system, The inventory control system which pays out in response to purchase or an arrangements demand of said substitute part, The customer device-management system which notifies modification of the equipment configuration information for said every customer equipment to the renewal means of the storage section, The scheduled maintenance work-item managerial system which notifies modification of the scheduled maintenance work item for said every customer equipment to said renewal means of the storage section, By the change notice of the equipment configuration information from said customer device-management system, the equipment configuration information on said storage section Moreover, while updating the work-item information on said storage section, and substitute part information by the change notice of the scheduled maintenance work item from said scheduled maintenance work-item managerial system When the scheduled maintenance working cycle of said customer equipment after updating is computed using the work-item information on said updated storage section and it differs from the scheduled maintenance working cycle before this scheduled maintenance working cycle updating The scheduled maintenance management method of the customer equipment with which a working day is characterized by having a renewal means of the storage section to direct re-calculation of a scheduled maintenance work-program day to a calculation means.

[Claim 6] A calculation means and said renewal means of the storage section are the scheduled maintenance management method of the customer equipment according to claim 5 characterized by computing the minimum thing as a scheduled maintenance working cycle of said customer equipment among the work-item periods of each work item beforehand set to the work-item information on said storage section like said working day.

[Claim 7] A definite means is the scheduled maintenance management method of the customer equipment according to claim 3, 4, 5, or 6 characterized by performing the notice of an acknowledgement request to said user even before the fixed date of said scheduled maintenance work-program day when the notice of an acknowledgement request to said user is performed even before the fixed date of a user's budget decision stage when there is said onerous substitute part, and said onerous substitute part cannot be found like said working day.

[Claim 8] The customer information on said storage section A customer name, a customer's address, and a customer's contact, The scheduled maintenance working cycle

for computing a scheduled maintenance work-program day, and schedule calculation dates of record which show the opening day of count, such as an equipment installation date and a maintenance initiation date, The notice period before an activity for computing the advice date which has a user recognize a scheduled maintenance work-program day etc., The scheduled maintenance management method of the customer equipment according to claim 3, 4, 5, or 6 characterized by consisting of budget decision days of the user for computing the advice date for being enough for budget appropriation of a user.

[Claim 9] The equipment configuration information on said storage section is the scheduled maintenance management method of the customer equipment according to claim 3, 4, 5, or 6 characterized by consisting of a customer name, and the equipment code and device name of the customer equipment currently installed by the user.

[Claim 10] The work-item information on said storage section is the scheduled maintenance management method of the customer equipment according to claim 3, 4, 5, or 6 characterized by consisting of a work item corresponding to the equipment code and this equipment code of customer equipment for a scheduled maintenance activity, and a work-item period which is a scheduled maintenance working cycle for every work item of this.

[Claim 11] The substitute part information on said storage section is the scheduled maintenance management method of the customer equipment according to claim 3, 4, 5, or 6 characterized by consisting of a work item, the substitute part name which is needed corresponding to this work item, a components partition which shows whether this substitute part is onerous or it is onerous, quantity needed in case it exchanges, and a unit price of components.

[Claim 12] Information is the scheduled maintenance management method of the customer equipment according to claim 3, 4, 5, or 6 characterized by consisting of the scheduled maintenance work-program day computed with the calculation means like said working day, a customer name, a work-program decision partition which judges approval of the user of a work program, and un-recognizing, and a work item like the working day of said extract information bureau.

[Claim 13] The schedule components information of said extract information bureau is the scheduled maintenance management method of the customer equipment according to claim 3, 4, 5, or 6 characterized by consisting of the scheduled maintenance work-program day computed with the calculation means like said working day, a customer name, the substitute part name to exchange, a components partition which judges whether this substitute part is onerous or it is onerous, quantity needed in case it exchanges, and a unit price of components.

[Translation done.]